

AMENDMENTS TO THE ABSTRACT

Please replace the abstract with the following rewritten abstract. A clean copy of the new abstract is attached hereto.

~~--A masking agent is applied to a patterned film 12 to a surface of piezoelectric material 11 to be processed, fluidized by contact with a solvent vapor V and dressed to a domed mask 14 by its surface tension. When the piezoelectric material is dry etched together with the domed mask 14, its surface is processed to a convex profile corresponding to thickness distribution of the domed mask 14. Distribution and shape of the domed mask 14 is controlled by treating the piezoelectric material 11 with an oil repellant 13 so as to limit reflow of the masking agent to a specified region(s). The processed piezoelectric material has a surface profile with a big mass at its center suitable for principal oscillation with out spurious oscillation.~~

A piezoelectric element is manufactured by applying a masking agent to a surface of a piezoelectric material to form a film of the masking agent on the surface of the piezoelectric material. The film of the masking agent is patterned into a masking pattern. Oil repellent is selectively applied to surface portions of the substrate which are not covered with the patterned film. The patterned film is held in contact with a vapor of a solvent for the masking agent, diluted with an inert gas, to fluidize the film to a domed shape on the surface of the piezoelectric material. The diluted vapor is formed by bubbling the solvent with the inert gas. The dome-shaped film is then cured and the piezoelectric material is dry etched together with the cured film to process the piezoelectric material into a three-dimensional convex profile corresponding to the thickness distribution of the domed shape.--